

Amendments to the Claims

RECEIVED

DEC 29 2003

TECH CENTER 1600/2900

Claims 1-72 are cancelled.

Claim 73 (Currently amended): A transgenic plant comprising:

a nucleotide construct encoding expressing a recombinant animal viral antigen protein, said

construct including one or more of the following to regulate expression of said sequence:

a promoter that preferentially targets expression to an edible tissue of a plant;

a 5' non translated leader sequence, and

an enhancer sequence.

wherein said recombinant animal viral antigen protein is expressed in said plant at a level

sufficient to induce an ~~protein capable of inducing a mucosal~~ immune response when said plant

is orally administered to a ~~human or~~ an animal.

Claim 74 (original): The plant of claim 73 wherein said protein is chimeric by being fused to another peptide, polypeptide or protein.

Claim 75 (original): The plant of claim 73 wherein said plant is a tomato plant.

Claim 76-82 (cancelled)

Claim 83 (Currently amended): [[A]] An edible transgenic plant expressing a recombinant animal viral antigen protein, said protein expressed at a level ~~of about 3-10 ng/mg or more of~~

~~total soluble protein~~ so that upon consumption of said edible plant, by an animal or human, an immunogenic response is elicited.

Claim 84 (Currently amended): The plant of claim 83 wherein said protein is expressed at a level of about ~~25-65 ng/mg or more~~ at least about 43 ng/mg or higher of total soluble protein.

Claims 85-97 (cancelled)

Claim 98 (Currently amended): A transgenic monocot plant having plant tissue wherein said plant tissue is expressing a recombinant viral antigen protein, said protein expressed at a level such that when said plant tissue is orally administered to the animal, ~~a mucosal~~ an immune response is elicited ~~against an animal viral antigen.~~

Claim 99 (Currently amended): A plant comprising a recombinant viral antigen which triggers production of antibodies to an animal viral antigen, upon oral administration of said plant to a human or animal, said antigen being a product produced by the method of:
expressing said immunogen and which is derived from a hepatitis B virus surface antigen or transmissible gastroenteritis virus spike protein, said antigen being a product produced by the method of: expressing said immunogen in a transgenic monocot plant, said transgenic plant being in a form chosen from the group consisting of a whole plant, plant part, or a crude plant extract.

Claim 100 (Currently amended): [[A]] An edible plant comprising a protein which triggers a mucosal immune response to a viral antigen protein, said protein being a product produced by the method of: expressing said protein in a transgenic edible plant, ~~said transgenic plant being in a form chosen from the group consisting of a whole plant, plant part, or a crude plant extract.~~

Claim 101 (New): A transgenic edible plant, said plant comprising:
a nucleotide construct which encodes a recombinant animal viral antigen protein, said construct including one or more of the following to regulate expression of said sequence:

- a promoter that preferentially targets expression to an edible tissue of a plant;
- a 5' nontranslated leader sequence, and
- an enhancer sequence,

wherein said recombinant animal viral antigen protein is expressed in said plant at a level sufficient to induce an immune response when said plant is orally administered to a human or animal and further wherein said plant is monocot.